RF EXPOSURE REPORT

REPORT NO.: SA140414C09

MODEL NO.: DDW36C

FCC ID: XCNDDW36C

RECEIVED: Apr. 14, 2014

ISSUED: Aug. 01, 2014

APPLICANT: Ubee Interactive Corp.

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ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by any government agencies.

TABLE OF CONTENTS

RELEASE CONTROL RECORD 3
1. CERTIFICATION 4
2. RF EXPOSURE 5
2.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) 5
2.2 MPE CALCULATION FORMULA 5
2.3 CLASSIFICATION 5
2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER 6

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140414C09	Original release.	Aug. 01, 2014

1. CERTIFICATION

PRODUCT:	Wireless Cable Modem
MODEL:	DDW36C
BRAND:	Ubee Interactive
APPLICANT:	Ubee Interactive Corp.
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 2 (Section 2.1091)**
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: DDW36C) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ **, DATE :** Aug. 01, 2014

Pettie Chen / Senior Specialist

APPROVED BY : _____ **, DATE :** Aug. 01, 2014

Ken Liu / Senior Manager

2. RF EXPOSURE

2.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm^2)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

2.2 MPE CALCULATION FORMULA

$Pd = (Pout*G) / (4*pi*r^2)$
where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
R = distance between observation point and center of the radiator in cm

2.3 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 38cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For Non-Beamforming Mode:

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412-2462	29.72	10.01	38	0.518	1
5180-5240	25.02	9.37	38	0.151	1
5745-5825	29.64	9.48	38	0.450	1

NOTE:

2.4GHz Band: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2] = 10.01dBi$

5180-5240MHz Band: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2] = 9.37dBi$

5745-5825MHz Band: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2] = 9.48dBi$

CONCULSION:

Both of the 2.4 and 5GHz can transmit simultaneously, the formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4G + WLAN 5.0G = 0.518 + 0.450 = 0.968

Therefore, the maximum calculation of this situation is 0.968, which is less than the “1” limit.

For Beamforming Mode:

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412-2462	27.74	10.01	38	0.328	1
5180-5240	25.62	9.37	38	0.174	1
5745-5825	26.51	9.48	38	0.219	1

NOTE:

2.4GHz Band: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$] =10.01dBi

5180-5240MHz Band: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$]= 9.37dBi

5745-5825MHz Band: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$]= 9.48dBi

CONCULSION:

Both of the 2.4 and 5GHz can transmit simultaneously, the formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

2. WLAN 2.4G + WLAN 5.0G = 0.328 + 0.219 = 0.547

Therefore, the maximum calculation of this situation is 0.547, which is less than the “1” limit.